David R. Wade, Ph.D/MDCH testimony/Senate Bill 1082

The Michigan Department of Community Health's Bureau of Disease Control, Prevention, and Epidemiology provides the epidemiologic support during investigations of illegal drug abuse in Michigan. We have studied the heroin-like compound fentanyl, a cocaine additive called Lavamisol, the designer drug called Bath Salts, and more recently, the synthetic cannabinoids addressed by SB 1082.

We have a close working relationship with Michigan's Regional Poison Control Center (PCC) who gather poisoning information from hospitals, clinics, and other health care providers throughout the state as well as from calls to their toll-free telephone number that is answered by toxicology experts 24/7.

Regarding the synthetic cannabinoids, the number of cases reported to the Michigan PCC has been rapidly rising, as shown in the line graph of Handout 1. Although seven synthetic cannabinoids were added to the Controlled Substance Act in Michigan in October 2010 and five were temporarily added by the Drug Enforcement Administration (DEA) in March 2011, the pattern of abuse was not curtailed. There were 17 cases reported in 2010, 224 (159 hospital visits) cases in 2011, and we have already been notified of 158 (147 hospital visits) cases through April of 2012. Teenagers and young adults are the main users, with 64% of all cases in 2011 among teens aged 13-19 years and 26% of cases among young adults in their 20's. Over three-quarters of users are males. Patients are presenting to emergency departments with elevated heart rate and blood pressure, drowsiness, agitation, hallucinations, seizures, and tremors. In Michigan in 2011, 25 persons had major medical outcomes from their exposure, including symptoms such as stroke, irregular heartbeat, and multiple seizures, and one died.

Case 1: A 21 year old male presented to the hospital on 10/7/11 with difficulty speaking and headache which occurred after he returned home from smoking a product called "Super Kush." He was diagnosed with a stroke. Complications included low blood pressure resulting in kidney injury. He required outpatient therapy to improve speech, and coordination. The product was analyzed, and contained three different synthetic cannabinoids (Am-2233, JWH 210, AM 2201).

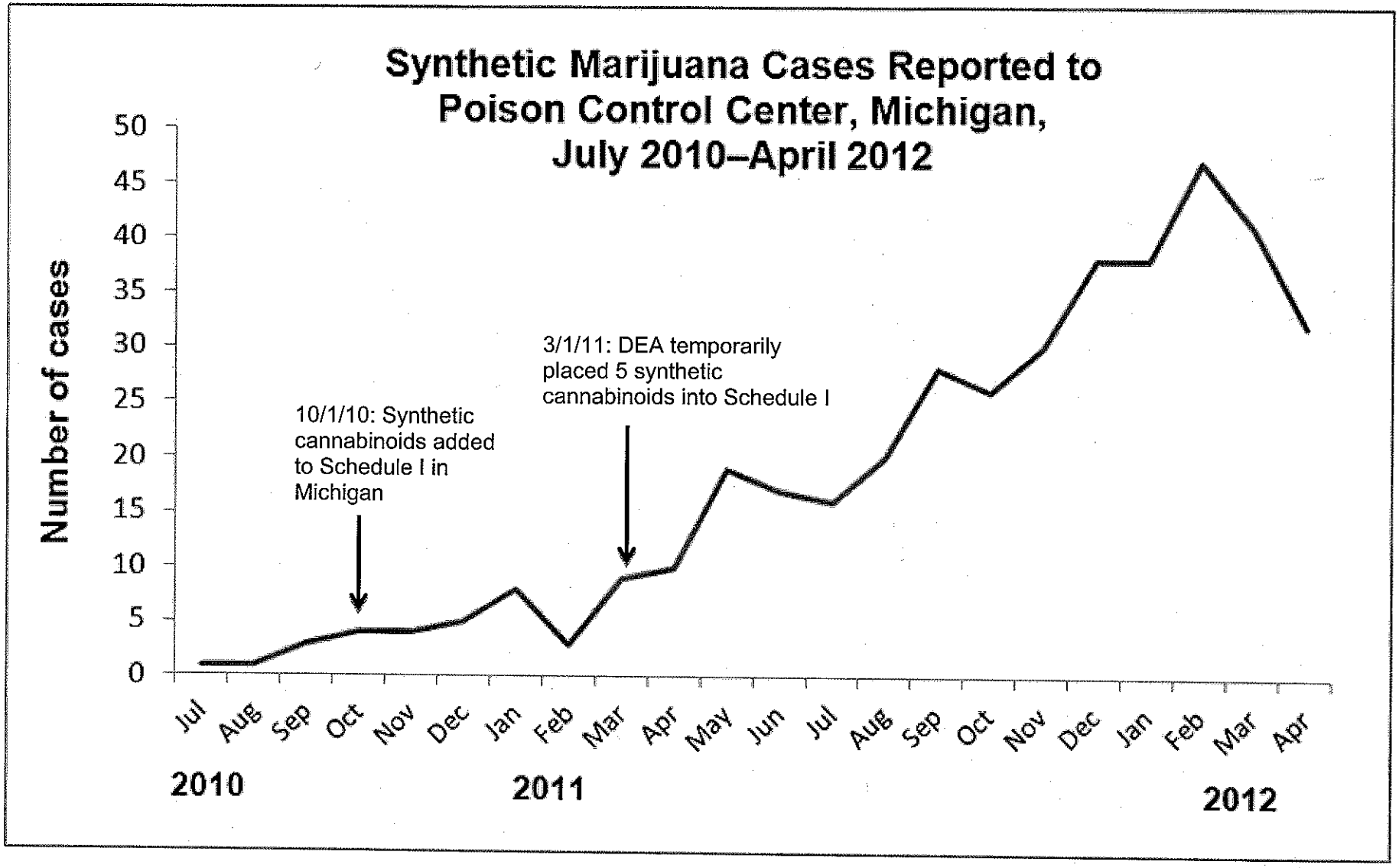
Case 2: A 14 year old female smoked a synthetic marijuana product on 2/14/12 and had a seizure at home one hour later. She was treated with anticonvulsants and recovered.

Case 3: A 14 year old female was brought to the emergency department on 2/9/2012 exhibiting bizarre behavior, hallucinations, and rapid heart rate after use of a synthetic cannabinoid brand that was a new product for her. She previously smoked K2, and tried the product "knockout" for the first time. She was discharged after a two day stay, requiring multiple doses of sedatives to resolve symptoms.

Case 4: A 42 year old female with history of chronic abuse of "spice" presented on 3/28/2012 with uncontrollable seizures. She developed a permanent condition known as toxic leucoencephalopathy. This is a structural change in the white matter of the brain, usually irreversible. She was discharged to a nursing home.

These are just a few examples of the rapidly rising number of hospital visits related to synthetic marijuana products. As specific synthetic cannabinoids are banned, organic chemists can quickly modify the chemical structures to create new products that are not specifically listed. Therefore, the process of listing chemical classes, rather than specific synthetic cannabinoids is a better way to reduce their availability.

Handout 1


Synthetic Marijuana Cases Reported to Poison Control Center, Michigan, July 2010–April 2012
Number of cases
50
45
40
35
30
25
20
15
10
5
0
10/1/10: Synthetic cannabinoids added to Schedule I in Michigan
3/1/11: DEA temporarily placed 5 synthetic cannabinoids into Schedule I
Jul
Aug
Sep
Oct
Nov
Dec
Jan
Feb
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May
Jun
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Sep
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Dec
Jan
Feb
Mar
Apr
2010
2011
2012